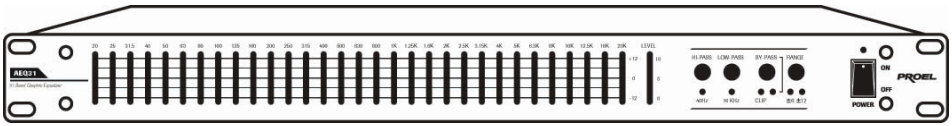
USER'S MANUAL

GRAPHIC EQUALIZER
AEQ31



PROEL

UK

1. IMPORTANT SAFETY INSTRUCTIONS

CAUTION: To reduce the risk of electric shock do not remove cover (or back panel). No user serviceable parts inside. Refer servicing to qualified personnel only.

WARNING: To reduce the risk of fire or electric shock, do not expose this apparatus to rain or moisture.

This symbol is intended to alert the user of the presence of uninsulated dangerous voltage within the product enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

This symbol is intended to alert the user of the presence of important operating and maintenance (servicing) instruction in the literature accompanying the appliance. Please carefully read the owner's manual.

INSTRUCTIONS:

All safety and operating instructions should be read before the product is operated.

Retain these instructions:
All safety and operating instructions should be retained for future reference.
This owner's manual should be considered as a part of the product and it must accompany it every time, and delivered to the new user when this product is sold. In this way the new owner will be aware of all the installations, operating and safety instructions.

Heed all warnings:
All warnings on the product and in owner's manual should be adhered to**.**
Heed all warnings.

Follow all instructions:
All operating and user's instructions must be followed.

UK

Sentences preceded by ⚠ symbol contain important safety instruction. Please read it carefully.

DETAILED SAFETY INSTRUCTIONS.

Water and moisture:

This apparatus should not be used near water (i.e. bathtub, kitchen sink, swimming pools, etc.)

Ventilation:

This apparatus should be placed in position that doesn't interfere with correct ventilation. This unit, for example, should not be placed on a bed, sofa cover o similar surfaces that could cover ventilation openings, or placed in a built-in installation, such a bookcase or a cabinet that could block air flow trough ventilation openings.

Heat:

This apparatus should be placed away from heat sources, like radiators, heat registers, stoves or other products (including amplifiers) that produce heat.

Power sources:

- This apparatus should be connected only to power source type specified in this owner's manual or on the unit.
- If the supplied AC power cable plug is different from wall socket, please contact an electrician to change the AC power plug.

Grounding or Polarization:

- All precautions must be observed in order to avoid grounding or polarization defeating.
- Unit metal parts are grounded through the AC power cord.
- If the AC power outlet doesn't have grounding, consult an electrician for outlet grounding.

Power cord protection:

The power cord should be routed in a way it will not be walked on or pinched by items placed upon or against it, paying particular attention to cords at plugs, convenience receptacles and wall outlet.

Cleaning:

- You can clean the unit with a compressed air flow or a wet cloth.
- Don't clean the unit using solvents like trichloroethylene, thinners, alcohol, or other fluids with very strong volatility and flammability.

Non use periods:

The unit AC power cord should be unplugged from the outlet if it's unused for a long period.

UK

Objects or liquid entry inside the unit:

Be careful that no objects fall or liquid is spilled inside the unit through ventilation openings.

Safe power line use:

- Keep firmly the plug and the wall outlet while disconnecting the unit from AC power.
- If you're not going to use the unit for a long period of time, please unplug the power cord from AC power outlet.
- To avoid unit power cord damaging, please don't strain the AC power cable and don't bundle it.
- In order to avoid unit power cord damaging, please be sure that the power cord is not walked on or pinched by heavy objects.

Unit relocation:

Before any unit relocation please control the unit is turned off. The power cord must be unplugged by the wall outlet, and all the connections wires should be disconnected as well.

Don't open this unit:

Don't attempt to open or to repair this unit by yourself. For any problem solution not described in this owner's manual, please refer to qualified personnel only or consult us or your National Distributor. Any improper operation could result in fire or electric shock.

Damages requiring services:

- Don't attempt to do operations not described in this user's manual.
- In the following cases please refer to an authorized maintenance center or skilled personnel:
  - When the unit works improperly or it doesn't work at all.
  - If power cord or plug are damaged.
  - If liquid has spilled, or objects have fallen into the unit.
  - The unit has been exposed to rain.
  - The unit doesn't operate normally o it exhibits a marked change in performance.
  - If the product has dropped or it has been damaged in any way.

Maintenance:

The user shouldn't attempt maintenance operation not described in this user's manual. Every maintenance operation should be done by qualified personnel only.

IMPORTANT SAFETY INSTRUCTIONS:

- Install this unit following owner's manual instructions.
- Don't install, connect or disconnect power supply when the unit is powered, otherwise there's an high risk of electric shock.
- Don't open the unit, there are no user serviceable parts inside.
- If you detect a particular smell from the unit, please turn it off immediately and disconnect the AC power cord.
- Don't block the unit ventilation openings.
- Avoid using this unit in overload for a long period.
- Don't force commands (switches, controls, etc.)

UK

- To obtain good speakers wire contacts, please tighten the screw terminals firmly.
- ⚠ For safety reason, don't defeat the grounding connection. Grounding is useful for user safety.
- Use only connectors and accessories suggested by the manufacturer. .
- This unit should be placed in a rack (see INSTALLATION) and kept far from:
  - Wet places
  - Direct exposure to heat sources (like sun light)
  - Non properly ventilated places
- Disconnect the power cord during storms or when the unit is not used.

- ⚠ In order to prevent fire and electric shock risks, it's necessary to keep the unit far from sprinkling and drops. Please don't put cups, vases or other object containing liquids over the unit. In case of interferences from source signal, THD value will raise over 10%. Don't place this unit in a bookshelf o in other places with small room.
- PROEL S.P.A. is not responsible for any damage that occurs due to a wrong unit installation.

Thank you for choosing one of Proel products, and for your confidence towards our brand, synonymous of professionalism, accuracy, high quality and reliability. All our products are CE approved and designed for continuous use in professional installation systems.

Description

This unit allows to customize sound from any line level sound source acting on frequencies (by using the 31 equalization bands) in order to balance and to adapt the sound source to environment acoustic character.

FEATURES

- Advanced design and manufacturing accuracy.
- 1/3 octaves 31 bands graphic equalizer.
- Hi-pass filter switch.
- Lo-pass filter switch.
- Selectable range switch, ± 6 dB or ± 12 dB.
- BYPASS switch for equalization defeat.
- GROUND-LIFT switch.
- XLR balanced input and output.
- 6.3mm. (1/4") TRS jack balanced input and output
- RCA unbalanced input and output.
- Input signal level.

UK

Front panel description

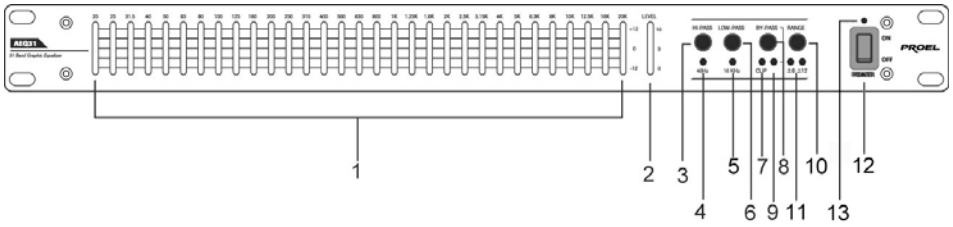


fig.1

1. Equalization band level sliders.
2. Input signal level control.
3. Hi-pass filter on/off switch.
4. Hi-pass filter on LED.
5. Lo-pass filter on/off switch.
6. Lo-pass filter on LED.
7. CLIP indicator LED.
8. BY-PASS switch.
9. BY-PASS indicator LED.
10. RANGE selector, to choose between ± 6 dB or ± 12 dB.
11. ± 6 dB LED and ± 12 dB LED to indicate selected gain RANGE.
12. POWER switch.
13. Power on LED.

Rear panel description

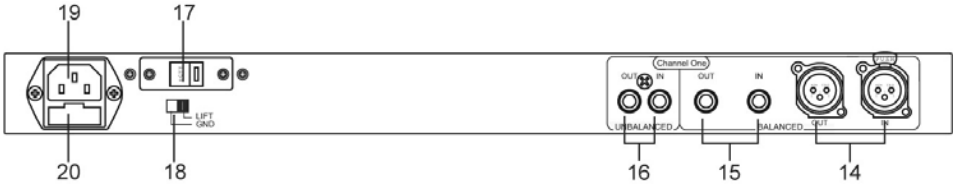


fig.2

14. Balanced XLR input and output connectors.
15. Balanced 6.3mm. (1/4”) TRS jack input and output connectors.
16. Unbalanced RCA input and output connectors.
17. AC power selector.
18. GROUND-LIFT switch.
19. IEC standard AC power supply socket.
20. Fuse-holder.

UK

Installation

1. AC power supply connection.
   To connect this unit to AC power supply please use supplied linecord.

2. GND/LIFT selector.
   This switch is used to disconnect the signal ground from the mains and chassis earth. If it is determined that the equalizer is the cause of hum or buzz in sound system due to a ground loop, move this switch to the "LIFT" position.

3. Input connections
   There are three different types of line level input connections, inter-connected among them:
   - XLR balanced input (IN) connector
   - 6.3mm. TRS jack balanced input (IN) connector
   - RCA unbalanced input (IN) connector

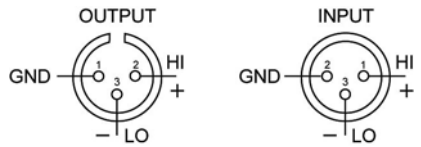
4. Output connections
   There are three different types of line level output connections, inter-connected among them:
   - XLR balanced output (OUT) connector
   - 6.3mm. TRS jack balanced output (OUT) connector
   - RCA unbalanced output (OUT) connector

⚠ NOTE It's allowed to use an input connection type together with a different output connection type.

⚠ NOTE In order to avoid damagig the unit, please don't simultaneously use more than one input and one output.

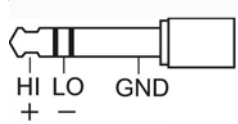
Connections:

- XLR balanced connector – wiring diagram:

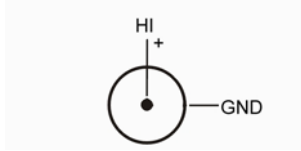


UK

- 6.3mm. (1/4”) TRS jack balanced connector – wiring diagram:



- RCA unbalanced connector – wiring diagram:



Operations

a. To turn on the unit press the POWER switch ON, its led will be lit.
b. To turn off the unit press the POWER switch OFF, its led will be turned off.
c. To increase or to decrease each band level, raise or lower the frequency slider (fig.1 ref.1) of the frequency you desire to modify, in 20Hz - 20 kHz range.
d. If CLIP LED is steadily lit the input signal level must be lowered: turn down the LEVEL (fig.1 ref.2) slider until when the CLIP LED flashes on musical peaks only.
e. RANGE (fig.1 ref.8) switch allows to choose the cut/boost range (±6dB or ±12dB) of 31 band sliders.
f. BY-PASS (fig.1 ref.6) switch can be used to defeat equalizer controls, without the need to turn it off or to put all the slider at zero position.
g. HI-PASS (fig.1 re.3) switch turns on the unit hi-pass filter, that attenuates by 12dB/oct. all signals below 40 Hz.
h. LOW-PASS (fig.1 ref.4) switch turns on the unit lo-pass filter, that attenuates by 12dB/oct. all signals over 16 KHz.

UK

Technical specifications

Model	**AEQ31**
Input connectors	1 balanced XLR 1 balanced 6,3 mm (1/4”) TRS jack 1 unbalanced RCA
Output connectors	1 balanced XLR 1 balanced 6,3 mm (1/4”) TRS jack 1 unbalanced RCA
Frequency response	20Hz-50KHz
Signal to noise ratio	93dB (@ 1 KHz)
Range	Switchable ± 6 dB or ± 12 dB
Input impedance	20kΩ (balanced), 15KΩ (unbalanced)
Max input level	18dBv
Output impedance	< 600Ω
Max output level	16dBv
Power supply	115 V AC (± 5%) – 60Hz, 230 V AC (±5%) – 50Hz
Power consumption	7 W
Rack height	1U standard 19”
Dimensions (WxHxD)	480mm x 44mm x 220mm - 19" x 8.66" x 1.75"
Weight	2,9 Kg – 6.4lbs

UK

CE

This unit complies with CE Directive 89/336/CEE (Electromagnetic compatibility)
and following modifications 92/31/CEE e 93/68/CEE, by European Specifications:
EN 50082-1:1997, EN 55013:1990, EN 55020:1994

This unit complies with CE Directive 73/23/CEE (Low Voltage)
and following modifications 93/68/CEE, by European Specifications:
EN 60065:1998

Proel SpA pursue a policy of continuous research and development. Proel SpA reserve the right to modify product circuitry and appearance at any moment, without prior notice..

PROEL S.p.A.
(World Headquarters - Factory)
Via alla Ruenia 37/43
64027 Sant'Omero (Te) – Italy
Tel: +39 0861 811241
Fax: +39 0861 887862
E-mail: info@proelgroup.com

installation.proelgroup.com